

PTO/SB/08A (08-03)

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Substitute for form 1449A-B/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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## Complete if Known

Application Number	10/716,393
Filing Date	November 17, 2003
First Named Inventor	Quan Nguyen
Group Art Unit	1645
Examiner Name	Unassigned
Attorney Docket Number	70-000410US
Date Submitted	February 15, 2006

## U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
/AB/	1	5,801,007		Simpson et al.	09-01-1998	
↓	2	6,017,758		Haselton et al.	01-25-2001	
↓	3	2001/0024830		Haselton et al.	09-27-2001	
↓	4	6,310,189		Fodor et al.	10-30-2001	

## FOREIGN PATENT DOCUMENTS

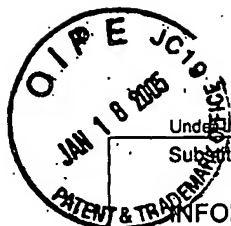
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		Office	Number	Kind Code (if known)				

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

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/AB/	5	Chiu, YL and Rana, TM (2002) RNAi in human cells: basic structural and functional features of small interfering RNA, <u>Mol. Cell</u> , 10(3): 549-561.	
/AB/	6	Shah, S. et al. (2005) Light-activated RNA interference. <u>Angew. Chem. Int. Ed.</u> 44, 1328-1332	

Examiner Signature	/Amy Bowman/	Date Considered	05/23/2007
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PTO/SB/08A (04-03)

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Attorney Docket Number	70-000410US
Date Submitted	January 13, 2005

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/AB/	1	Haseltson, III et al.		6,017,758	06-25-2000	

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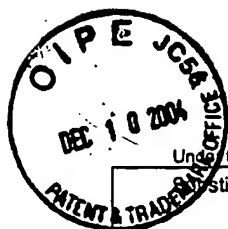
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/AB/	2	MCCAFFREY et al. (2002) "RNA interference in Adult Mice" <u>Nature</u> 418: 38-39	
/AB/	3	SIXOU et al. (1994) "Intracellular oligonucleotide hybridization detected by fluorescence resonance energy transfer (FRET)" <u>Nucleic Acids Research</u> 22(4): 662-668.	
/AB/	4	SOKOL et al. (1998) "Real time of DNA-RNA hybridization in living cells" <u>PNAS</u> , 95:11538- 11543.	

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Attorney Docket Number	70-000410US
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		Number	Kind Code (if known)			
/AB/	1	5,430,175	A1	Hess et al.	07-04-1995	
	2	5,635,608	A1	Haugland et al.	06-03-1997	
	3	5,872,243	A1	Gee et al.	02-16-1999	
	4	5,998,580	A1	Fay et al.	12-07-1999	
	5	6,043,065	A1	Kao et al.	03-28-2000	
	6	6,242,258	B1	Haselton et al.	06-05-2001	
	7	6,410,255	B1	Pollok et al.	06-25-2002	
	8	6,410,327	B2	Haselton, III, et al.	06-25-2002	
	9	2002/0162126	A1	Beach et al.	10-31-2002	
	10	20020173478	A1	Gewirtz	11-21-2002	
	11	2002/0182223	A1	LaCount et al.	12-05-2002	

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		Office	Number	Kind Code (if known)				
/AB/	12	CA	2,359,180		Kreutzer	07-18-2001		
	13	WO	2001/68836		Genetica, Inc.	09-20-2001		
	14	WO	2001/70949		Benitec Australia Ltd	09-27-2001		
	15	WO	2001/75164		Whitehead Institute for Biomedical Res.	10-11-2001		
	16	WO	2003/040375		Mirus Corp.	05-15-2003		

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/AB/	17	Agami (2002) "RNAi and related mechanisms and their potential use for therapy" <u>Curr Opin Chem Biol</u> 6:829-834	

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	Group Art Unit	<b>1645</b>
	Examiner Name	<b>Unassigned</b>
	Attorney Docket Number	<b>70-000410US</b>
	Date Submitted	<b>December 7, 2004</b>

/AB/	18	<b>Amarzguloui et al. (2003) "Tolerance for mutations and chemical modifications in a siRNA" <u>Nucl. Acids Res.</u> 31:589-595</b>	
	19	<b>Ando et al. (2001) "Photo-mediated gene activation using caged RNA/DNA in zebrafish embryos" <u>Nature Genetics</u>, vol. 28:2001:317-325.</b>	
	20	<b>Bishop et al. (2000) "40-Aminomethyl-2,20-bipyridyl-4-carboxylic Acid (Abc) and Related Derivatives: Novel Bipyridine Amino Acids for the Solid-Phase Incorporation of a Metal Coordination Site Within a Peptide Backbone" <u>Tetrahedron</u> 56:4629-4638</b>	
	21	<b>Bonetta (2002) "Getting Proteins Into Cells: The Discovery and commercialization of protein transduction domains frees researchers from transfection troubles" <u>The Scientist</u> 16:38.</b>	
	22	<b>Byrom et al. "Visualizing siRNA in mammalian cells: Fluorescence analysis of the RNAi effect" <u>Ambion TechNotes</u> 9(3) June 2002.</b>	
	23	<b>Caplen (2002) "A new approach to the inhibition of gene expression" <u>Trends in Biotech</u> 20(2): 49-51.</b>	
	24	<b>Chaulk et al. (1998) "Caged RNA: photo-control of a ribozyme reaction" <u>Nucleic Acids Res.</u> (1998) 26(13): 3173-3178.</b>	
	25	<b>Ching et al. (1996) "Polymers As Surface-Based Tethers with Photolytic triggers Enabling Laser-Induced Release/Desorption of Covalently Bound Molecules" <u>Bioconjugate Chemistry</u> 7(5):525-528.</b>	
	26	<b>Conrad II et al. (2000) "<i>p</i>-Hydroxyphenacyl Phototriggers: The reactive Excited State of Phosphate Photorelease" <u>J. Am. Chem. Soc.</u> 122:9346-9347.</b>	
	27	<b>Conrad II et al. (2000) "New Phototriggers: <sup>1</sup> Extending the <i>p</i>-Hydroxyphenacyl <math>\pi</math>-<math>\pi^*</math> Absorption Range" <u>Org. Lett.</u> 2:1545-1547.</b>	
	28	<b>Czauderna et al. (2003) "Structural variations and stabilizing modifications of synthetic siRNAs in mammalian cells" <u>Nucl Acids Res</u> 31:2705-2716.</b>	
	29	<b>Ding et al. (2001) "Size-dependent control of the binding of biotinylated proteins to streptavidin using a polymer shield" <u>Nature</u> 411:59-62.</b>	
	30	<b>Elbashir et al. (2001) "Duplexes of 21-nucleotide RNAs mediate RNA interference in cultured mammalian cells" <u>Nature</u> 411:494-498.</b>	
	31	<b>Elbashir et al. (2002) "Analysis of gene function in somatic mammalian cells using small interfering RNAs" <u>Methods</u> 26:199-213</b>	
	32	<b>Fischer et al. (2001) "Cellular Delivery of Impermeable Effector Molecules in the Form of Conjugates with Peptides capable of Mediating Membrane Translocation" <u>Bioconjug Chem.</u>, 12:825-841.</b>	
✓	33	<b>Furuta et al. (1999) "Brominated 7-hydroxycoumarin-4-ylmethyls: novel photolabile protecting groups with biologically useful cross-sections for two photon photolysis" <u>Proc. Natl. Acad. Sci.</u></b>	
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	Attorney Docket Number	<b>70-000410US</b>
	Date Submitted	<b>December 7, 2004</b>

		96(4):1193-1200.	
/AB/	34	Galaev and Mattiasson (1999) "Smart' polymers and what they could do in biotechnology and medicine" <u>Trends Biotech.</u> 17:335-340.	
	35	Glvens et al. (2000) "A New Phototriggers 9: <i>p</i> -Hydroxyphenacyl as a C-Terminal Photoremovable Protecting Group for Oligopeptides" <u>J. Am. Chem. Soc.</u> 122:2687-2697.	
	36	Grabarek and Glover (2003) "RNA interference by production of short hairpin dsRNA in ES cells, their differentiated derivatives, and somatic cell lines" <u>BioTechniques</u> 34:734-744.	
	37	Gossen and Bujard (1992) "Tight control of gene expression in mammalian cells by tetracycline-responsive promoters" <u>Proc. Natl. Acad. Sci. USA</u> 89:5547-5551.	
	38	Gupta et al (2004) "Inducible, reversible, and stable RNA interference in mammalian cells" <u>Proc. Natl. Acad. Sci. USA</u> 101:1927-1932.	
	39	Hannon (2002) "RNA interference" <u>Nature</u> 418(6894):244-51	
	40	Hermann et al. (2003) "An epi-allelic series of p53 hypomorphs created by stable RNAi produces distinct tumor phenotypes in vivo" <u>Nat Genet.</u> 33(3):396-400.	
	41	Holen et al. (2003) "Similar behavior of single-strand and double-strand siRNAs suggests that they act through a common RNAi pathway" <u>Nucl. Acids Res.</u> 31:2401-2407.	
	42	Hutvagner & Zamore (2002) "RNAi: nature abhors a double-strand" <u>Curr Opin Genet Dev.</u> 12(2):225-32.	
	43	Kaplan et al, (1988) "Photolabile chelators for the rapid photorelease of divalent cations" <u>Proc Natl Acad Sci USA</u> 85(17):6571-5.	
	44	Kossel et al. (2001) "A caged Ab reveals an immediate/instructive effect of BDNF during hippocampal synaptic potentiation" <u>Proc. Natl. Acad. Sci. USA</u> 98:14702-14707.	
	45	Lackey et al (2002) "A biomimetic pH-responsive polymer directs endosomal release and intracellular delivery of an endocytosed antibody complex" <u>Bioconjugate Chem</u> 13:996-1001.	
	46	Lee et al. (1997) "Caged Nicotinic Acid Adenine Dinucleotide Phosphate: Synthesis And Use" <u>J Biol Chem</u> 272(7):4172-8.	
	47	Li et al. (1998) "Cell-permeant caged InsP <sub>3</sub> ester shows that Ca <sup>2+</sup> spike frequency can optimize gene expression" <u>Nature</u> 392:936-541.	
	48	Lipp & Niggli (1998) "Fundamental calcium release events revealed by two-photon excitation photolysis of caged calcium in Guinea-pig cardiac myocytes" <u>J Physiol</u> 508.3, 801.	
	49	Lin et al. (2002) "Spatially discrete, light-driven protein expression" <u>Chem. Biol.</u> 9:1347-1353.	
↓	50	Martinez et al. (2002) "Single-stranded antisense siRNAs guide target RNA cleavage in RNAi" <u>Cell</u> 110:563-574	

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/AB/	51	Marriot et al. (1999) "Caged peptides and proteins: new probes to study polypeptides function in complex biological systems" <u>Trends Plant Sci</u> 4(8):330-334.	
	52	Mastrobattista et al (2002) "Functional Characterization Of An Endosome-Disruptive Peptide And Its Application In Cytosolic Delivery Of Immunoliposome-Entrapped Proteins" <u>J Biol Chem</u> 277:27135-43.	
	53	McCray et al. (1980) "A new approach to time-resolved studies of ATP-requiring biological systems; laser flash photolysis of caged ATP" <u>Proc. Natl. Acad. Sci. USA</u> 77:7237-41.	
	54	McManus et al. (2002) "Gene silencing in mammals by small interfering RNAs" <u>Nat Rev Genet.</u> 3(10):737-47.	
	55	Miller et al (1998) "Flash decaging of tyrosine sidechains in an ion channel" <u>Neuron</u> 20, 619-624.	
	56	Miyata et al. (1999) "A reversibly antigen-responsive hydrogel" <u>Nature</u> 399:766-769.	
	57	Monroe et al. (1999) "Targeting expression with light using caged DNA" <u>J Biol Chem.</u> 274(30):20895-20900.	
	58	Murthy et al. (1999) "The design and synthesis of polymers for eukaryotic membrane disruption " <u>Journal of Controlled Release</u> 61:137-143	
	59	Murthy et al. (2003) "Bioinspired pH-responsive polymers for the intracellular delivery of biomolecular drugs" <u>Bioconjugate Chem.</u> 14:412-419.	
	60	Nishikura (2001) "A short primer on RNAi: RNA-directed RNA polymerase acts as a key catalyst" <u>Cell</u> 107:415-418.	
	61	Paddison et al. (2002) "Stable suppression of gene expression by RNAi in mammalian cells" <u>Proc. Natl. Acad. Sci. USA</u> 99:1443-1448	
	62	Paul et al. (2002) "Effective expression of small interfering RNA in human cells" <u>Nature Biotech</u> 29:505-507.	
	63	Pettit et al. (1997) "Chemical two-photon uncaging: a novel approach to mapping glutamate receptors" <u>Neuron</u> 19:465-471.	
	64	Rehman et al. (2003) "Protection of islets by <i>in Situ</i> peptide-mediated transduction of the Ikappa B kinase inhibitor Nemo-binding domain peptide" <u>J Biol Chem</u> 278:9862-9868.	
	65	Robbins et al. (2002) "Peptide delivery to tissues via reversibly linked protein transduction sequences" <u>Biotechniques</u> 33:190-192.	
	66	Saez et al. (1997) "Inducible gene expression in mammalian cells and transgenic mice" <u>Curr. Opin. Biotechnol.</u> 8:608-616.	
↓	67	Schmid et al. (2002) "Combinatorial RNAi: a method for evaluating the functions of gene families in <i>Drosophila</i> " <u>Trends Neurosci.</u> 25(2):71-4.	

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/AB/	68	Schwarz et al. (2002) "Evidence that siRNAs function as guides, not primers, in the Drosophila and human RNAi pathways" <u>Mol. Cell</u> 10:537-548.	
	69	Schwartz et al. (2000) "Peptide-mediated cellular delivery" <u>Curr Opin Mol Ther</u> 2:162-7.	
	70	Shigeri et al. (2001) "Synthesis and application of caged peptides and proteins" <u>Pharmacology &amp; Therapeutics</u> 91:85-92.	
	71	Shimoboji et al. (2002) "Photoresponsive polymer-enzyme switches" <u>Proc. Natl. Acad. Sci. USA</u> 99:16592-16596.	
	72	Simeoni et al. (2003) "Insight into the mechanism of the peptide-based gene delivery system MPG: Implications for delivery of siRNA into mammalian cells" <u>Nucl Acids Res</u> 31: 2717-2724.	
	73	Tuschl and Borkhardt (2002) "Small interfering RNAs: A revolutionary tool for the analysis of gene function and gene therapy" <u>Molecular Interventions</u> 2:158-167	
	74	Ueda (2001) "Rnai: a new technology in the post-genomic sequencing era" <u>J Neurogenet.</u> 15(3-4):193-204	
	75	Ullu et al. (2002) "RNA interference: advances and questions" <u>Philos Trans R Soc Lond B Biol Sci.</u> 357(1417):65-70	
	76	Wagner et al (1992) "Influenza virus hemagglutinin HA-2 N-terminal fusogenic peptides augment gene transfer by transferrin-polylysine-DNA complexes: toward a synthetic virus-like gene-transfer vehicle" <u>Proc Natl Acad Sci</u> 89:7934-38.	
	77	Walker et al. "Signaling pathways underlying eosinophil cell motility revealed by using caged peptides" <u>Proc. Natl. Acad. Sci. USA</u> (1998) 95:1568-1573.	
	78	Watanabe (Jan.13 2003) "Knocking Down Genes for Fun and Function" <u>Scientist</u> 17(1):36.	
	79	Zamore (2001) "RNA interference: Listening to the sound of silence" <u>Nature Structural Biology</u> 8:746-750.	
	80	Zou et al. (2002) "Catalytic subunit of protein kinase A caged at the activating phosphothreonine" <u>J. Amer. Chem. Soc.</u> 124:8220-8229.	
✓	81	Zou et al. (2001) "Caged Thiophosphotyrosine Peptides" <u>Angew. Chem. Int. Ed.</u> 40:3049-3051.	

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